

## **REMARKS**

### **I. Introduction**

Claims 5 to 11 are currently pending in the present application. In view of the foregoing amendments and following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicant thanks the Examiner for considering the previously filed Information Disclosure Statements, PTO-1449 papers, and cited references..

### **II. Objection to the Claim 10**

Claim 10 has been amended herein to obviate the present objection. Withdrawal of the objection to claim 10 is therefore respectfully requested.

### **III. Double Patenting**

Claims 5 to 11 were provisionally rejected as unpatentable over co-pending Application No. 10/501,845. Such a rejection does not require filing of a Terminal Disclaimer or other response unless the claims of the cited application actually issue, and the double patenting rejection remains as the sole remaining rejection in this application. Applicant thanks the Examiner for the notification, and will respond further to this rejection when the rejection is no longer provisional, as required by the patent rules.

### **IV. Rejection of Claims 5 to 8 and 10 Under 35 U.S.C. § 112, ¶ 1**

Claims 5 to 8 and 10 were rejected under 35 U.S.C. § 112, ¶ 1 as assertedly failing to comply with the written description requirement. While Applicant disagrees with the merits of this rejection, claims 5, 7, 8, and 10 have been amended herein without prejudice, thereby obviating the present rejection.

Claim 7 has been amended as suggested by the Examiner. As regards claims 5 and 10, support for the amendments to the claims may be found in the Substitute Specification, e.g., at page 19, line 3. As regards claim 8, support for the amendments to the claims may be found in the Substitute Specification, e.g., at page 19, lines 1 to 6, 16, and 17<sup>1</sup>.

Withdrawal of this written description rejection of claims 5 to 8 and 10 is therefore respectfully requested.

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<sup>1</sup> The Advisory Action of February 22, 2010 asserts that the application as originally filed does not support the feature of responsive to an interrupt, suppressing an increase by the configuration of the maximum allowed runtime to respond to the interrupt by expiry of the maximum allowed runtime, because the specification refers to responding to the interrupt following the expiry of the maximum allowed runtime. Accordingly, claim 8 has been amended herein for clarity to refer to responding to the interrupt upon expiry of the maximum allowed runtime.

**V. Rejection of Claim 9 Under 35 U.S.C. § 112, ¶ 2**

Claim 9 was rejected under 35 U.S.C. § 112, ¶ 2 as assertedly being indefinite. While Applicant disagrees with the merits of this rejection, claim 9 has been amended herein without prejudice, thereby rendering moot the present rejection.

Withdrawal of this indefiniteness rejection of claim 9 is therefore respectfully requested.

**VI. Rejection of Claims 5, 8, and 9 Under 35 U.S.C. § 103(a)**

Claims 5, 8, and 9 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 6,076,157 (“the Borkenhagen reference”) and U.S. Patent No. 6,658,564 (“the Smith reference”). It is respectfully submitted that the combination of the Borkenhagen and Smith references does not render unpatentable any of the present claims, and the present rejection should be withdrawn, for at least the following reasons.

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied.

First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). As clearly indicated by the Supreme Court, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1741.

Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986).

Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

As explained herein, the Office Action does not satisfy these requirements of § 103 as to all of the features of the claims, as presented herein.

Claim 5 relates to a method for operating a reconfigurable unit and recites “increasing, by the first configuration, the first configuration’s maximum allowed runtime.” The Borkenhagen reference provides for a timeout of a thread if the thread is unable to perform useful processing. The Office Action asserts that, according to the Borkenhagen reference, the continued processing by the thread therefore increases its maximum allowed runtime because the timeout period will be restarted, and therefore discloses the increasing step of claim 5.

However, claim 5 further recites “suppressing the increase [of a configuration’s maximum allowed runtime] in response to the interrupt.” The Office Action refers to column 22, lines 4 to 6 of the Borkenhagen reference as assertedly disclosing this feature. Applicant disagrees. The cited section merely refers to an instance where the occurrence of the inability by an active thread to perform useful processing coincides with an inactive thread waiting to service an interrupt. The cited section does not state that the interrupt causes the inability by the active thread to perform the useful processing. Indeed, the terse language of the claim at the cited portion – column 22, lines 4 to 6 – refers to the description at column 14, lines 44 to 47, which indicates that the reason for using a timeout in the case of a thread that does not perform useful processing is because of an undesirable latency in the inactive thread to service the interrupt. Thus, the failure to increase the maximum allowed runtime in the Borkenhagen reference (which, according to the Office Action, refers to the failure by the active thread to perform useful processing) is not in response to an interrupt, but is merely indicated in the Borkenhagen reference as possibly occurring at such time that an inactive thread waits to service the interrupt, this point merely indicating an advantage perceived by the Borkenhagen reference in its provided timeout feature.

In response to the above, the Advisory Action asserts that Applicant’s discussion regarding the Borkenhagen reference is illogical because, if an interrupt does not cause the inability to continue to perform useful processing, then the interrupt would remain unhandled.

As an initial matter, the Examiner’s objections to the method proposed by the Borkenhagen reference does not change what the Borkenhagen clearly states, which is clearly as Applicant has described above. Moreover, as to the Examiner’s objection, it is possible that the Borkenhagen reference assumes that any thread at some point will cease to perform

useful processing, e.g., when it waits for a resource or when it completes its assigned task, at which point the interrupt may be handled. Regardless, nothing in the Borkenhagen reference suggests that the interrupt itself causes the inability of a thread to perform useful processing, and it is not Applicant's obligation to determine how to handle any perceived disadvantages or glitches in what is disclosed in the cited reference, namely that an interrupt may be handled once it occurs that an active thread ceases useful processing for a predetermined time period (without the interrupt itself causes such cessation by the active thread from performing the useful processing).

The Advisory Action further refers to column 19, lines 49 to 51, 56, and 57, and column 20, lines 22 to 30. However, those sections also fail to disclose an interrupt causing an active thread to be unable to perform useful processing or otherwise causing an active thread to suppress increasing its maximum allowed runtime, or to cease processing. Instead, the cited sections merely indicate that if an interrupt is assigned to a thread that otherwise is assigned a low priority, the thread's priority may be raised so that the thread is processed sooner than it would otherwise have been had the thread's priority not been raised.

Furthermore, claim 5 additionally provides for an instance where a further increase of the maximum allowed runtime is suppressed by a task or thread switch. The Office Action refers to column 14, lines 48 to 50 as assertedly disclosing this feature. The cited section merely indicates that the time is not increased if an active thread does not have useful processing. Should that occur, then, once the time expires, a thread switch may be executed, but the thread switch does not suppress the active thread from performing useful processing (which is relied upon by the Office Action as assertedly disclosing the increasing of the maximum allowed runtime).

The Advisory Action asserts that the Borkenhagen reference discloses this feature because after a thread becomes inactive it might not again get the chance to continue processing if there is no trigger back to the thread. As an initial matter, the argument is based on conjecture, as the Borkenhagen reference does not disclose such an instance. Regardless, careful analysis reveals that even should the Borkenhagen reference disclosed or suggested the possibility of such an occurrence, the Borkenhagen reference would still not disclose or suggest all of this feature of claim 5. In this regard, claim 5 refers to an instance of expiry of a maximum allowed runtime which, expiry occurs due to the suppression by the task and/or thread switch. In the instance described by the Advisory Action, the expiry of the Borkenhagen reference was caused by the failure of the active thread to perform useful processing, and not by any suppression by a task or thread switch. Even if the thread switch

in the Borkenhagen reference thereafter prevents the thread from regaining activity, such an instance would be unrelated to an expiry of a maximum allowed runtime, since if the thread fails to regain activity, it is never assigned again assigned a maximum allowed runtime.

The Advisory Action further refers to column 17, lines 50 to 57 as assertedly disclosing this feature of claim 5. However, that section merely indicates that a priority of a thread can be set to determine the frequency at which switches into or out of the thread occurs. However, at most this might indicate that a thread may be switched to the inactive state based on its priority level. It does not indicate that the thread will cease to be able to perform useful processing for a predetermined amount of time, responsive to expiry of which predetermined amount of time a thread switch occurs.

In this regard, it is noted that the Examiner has relied on the expiry of a predetermined amount of time of the thread's inability to perform useful processing of the Borkenhagen reference as disclosing the expiry of the maximum allowed runtime of claim 5. But a thread switch that occurs due to priority settings is not indicated to be in any way related to the switching that occurs due to the predetermined period of inability to perform useful processing.

Therefore, the thread switch which may occur due to priority settings in the Borkenhagen reference does not disclose or suggest the task switch and/or thread switch of claim 5, which must also suppress a further increase of a maximum allowed runtime, which results in the expiry of the maximum allowed runtime.

The Smith reference does not correct these critical deficiencies of the Borkenhagen reference.

For all of the foregoing reasons the combination of the Borkenhagen and Smith references does not disclose or suggest all of the features of claim 5, and therefore does not render unpatentable claim 5.

Claim 8 relates to a method for operating a reconfigurable unit and recites "responsive to an interrupt, suppressing an increase by the configuration of the maximum allowed runtime to respond to the interrupt by expiry of the maximum allowed runtime." As noted above with respect to claim 5, the combination of the Borkenhagen and Smith references does not disclose or suggest this feature, and therefore does not render unpatentable claim 8.

Claim 9 relates to a method for operating a reconfigurable unit and recites "suppressing the increase [of the maximum allowed runtime] in response to an interrupt." As noted above with respect to claim 5, the combination of the Borkenhagen and Smith

references does not disclose or suggest this feature and therefore does not render unpatentable claim 9.

Withdrawal of this obviousness rejection of claims 5, 8, and 9 is therefore respectfully requested.

**VII. Rejection of Claim 6 Under 35 U.S.C. § 103(a)**

Claim 6 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of the Borkenhagen and Smith references, in further view of U.S. Patent No. 6,665,758 (“the Frazier reference”) and Parallel Counters For Signed Binary Signals (“the Parhami reference”). It is respectfully submitted that the combination of the Borkenhagen, Smith, Frazier, and Parhami references does not render unpatentable claim 6, and the present rejection should be withdrawn, for at least the following reasons.

Claim 6 depends from claim 5 and is therefore allowable for at least the same reasons as claim 5, since the Frazier and Parhami references do not correct the critical deficiencies of the combination of the Borkenhagen and Smith references noted above.

Withdrawal of this obviousness rejection of claim 6 is therefore respectfully requested.

**VIII. Rejection of Claims 10 and 11 Under 35 U.S.C. § 103(a)**

Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of the Borkenhagen, Smith, and Frazier references. It is respectfully submitted that the combination of the Borkenhagen, Smith, and Frazier references does not render unpatentable either of claims 10 and 11, and the present rejection should be withdrawn, for at least the following reasons.

Claim 10 relates to a method for operating a reconfigurable unit and recites “if an interrupt does occur, responsive to the occurrence of the interrupt, the maximum allowed runtime is not increased.” As noted above in support of the patentability of claim 5, the combination of the Borkenhagen and Smith references does not disclose or suggest this feature. The Frazier reference does not correct this critical deficiency of the combination of the Borkenhagen and Smith references.

Accordingly, the combination of the Borkenhagen, Smith, and Frazier references does not disclose or suggest all of the features of claim 10, and therefore does not render unpatentable claim 10.

Claim 11 relates to a reconfigurable unit and recites that a “configuration is adapted to trigger a counter reset to increase its maximum allowed runtime conditional at least upon that an interrupt is not detected and processing is to continue without a thread switch and without a task switch.” As noted above with respect to claim 10, the cited references do not disclose or suggest such a condition for increasing a maximum allowed runtime of a configuration.

Accordingly, the combination of the Borkenhagen, Smith, and Frazier references does not disclose or suggest all of the features of claim 11, and therefore does not render unpatentable claim 11.

Withdrawal of this obviousness rejection of claims 10 and 11 is therefore respectfully requested.

**IX. Rejection of Claim 7 Under 35 U.S.C. § 103(a)**

Claim 7 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of the Borkenhagen and Smith references, in further view of U.S. Patent No. 4,959,781 (“the Rubinstein reference”). It is respectfully submitted that the combination of the Borkenhagen, Smith, and Rubenstein references does not render unpatentable claim 7, and the present rejection should be withdrawn, for at least the following reasons.

Claim 7 depends from claim 5 and is therefore allowable for at least the same reasons as claim 5, since the Rubenstein reference do not correct the critical deficiencies of the combination of the Borkenhagen and Smith references noted above.

Withdrawal of this obviousness rejection of claim 7 is therefore respectfully requested.

**X. Conclusion**

In light of the foregoing, it is respectfully submitted that all of the presently pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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